DOCUMENT RESUME

ED 400 067 PS 024 568

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TITLE What Is the Effect of School Entrance Age on the Reading Readiness Achievement of Kindergarten Students?
PUB DATE Jul 96
NOTE 12p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Black Students; Early Experience; *Kindergarten; *Parochial Schools; Primary Education; Reading Achievement; *Reading Readiness; *School Entrance Age; School Readiness
IDENTIFIERS African Americans; Chicago Public Schools IL

ABSTRACT

This study examined the relationship between age at school entry and reading readiness in kindergarten. Subjects included 30 kindergarten students selected randomly from a population of 56 students at a parochial school in a predominantly low socioeconomic status neighborhood in Chicago, Illinois. All students were African American and ranged in age from 5.5 years to 6.5 years. The Prereading Composite score from the Metropolitan Readiness Test Sixth Edition given in April 1996 was used as the achievement measure. Findings indicated that mean age at school entry was 64.39 months and the mean Prereading Composite raw score was 52.53. The correlation between age at school entry and reading readiness was .96. (Contains 20 references.) (KDFB)

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ED 400 067

WHAT IS THE EFFECT OF SCHOOL ENTRANCE AGE ON THE READING READINESS ACHIEVEMENT OF KINDERGARTEN STUDENTS?

Lois Parks

School entrance age and readiness have been highly controversial issues since the inception of early childhood education. Some teachers have juggled variables such as age and gender, and have agonized about decisions relevant to the readiness or unreadiness of potential school entrants. Teachers who have stressed less emphasis on readiness as a criteria for school entrance have based their logic upon past experiences where children who have been identified as 'delayed ' in kindergarten have later excelled in first grade. Several parents have pondered whether to admit their child into school or whether to wait until a future date when he/she would be better prepared to respond to formal instruction. Other parents, who have been unaffected by the youngest theory, have calmly enrolled their young children into school and have based their decisions on reports of children who have learned to read prior to formal schooling and upon cases in which younger children have scored higher on readiness tests than their older cohorts. Legislators, influenced by lobbyists, have flip-flopped admission ages in attempts to comply with the latest and most popularly accepted research findings relative to school readiness at that time.

At the 1989 conference of the National Governors Association, the governors prioritized school readiness as their number one educational goal for the United States. They further declared, "By the year 2000, all children the U.S. will start the school year ready to learn " (Crnic 1994, p.92). Gullo and Burton (1992) have submitted that, " research findings on the issue of readiness have been clouded at best." (p 176).. Several studies on age have shown that the youngest children in academic kindergarten classes have not achieved as well as their older classmates. Other studies have confirmed the slightly lower scores of some younger children on standardized tests, but have additionally reported that these differences have usually diminished -- or have even disappeared in later years..

Kagan (1990) has also suggested that though much research has been done on the topic, the construct readiness has been definitively elusive. One possible explanation for this phenomenon is that readiness is a multifaceted and subjective construct which has. multifaceted and subjective meanings. Moreover. the conceptualization of readines is generally applicable to the situations presented at that time and/or to the discipline of the definer. The relativity of readiness is further demonstrated by Gullo's (1994) following conceptualization of the construct.

> Readiness is a term associated with early childhood education. Its use is not standardized. The concept is often used to describe how prepared children are ' to start fornal schoolin' ; ' to start

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> formal reading instruction ' '; ' to start formal math instruction ' ; or move on to the next grade. The readiness concept utilizes assessment to determine whether or not children are ready for a particular experience. (pp. 51 - 62)

Traditionally, children across the nation have entered the public school systems of the United States based on their chronological ages rather than their developmental abilities. Various research studies have revealed that students who have been admitted to school developmentally unready but chronologically eligible in reference to age have greatly benefitted from academic instruction and/or experiences. These marginal gains have been illustrated on achievement test scores which have shown that the originally less ready students generally fared just as well as their classmates.

Historically school entrance age has been the responsibility of state legislators, but both public and private concerns (reading readiness, kindergarten curriculum, research findings on the effects of other variables such as gender and socio-economic status have on a child's abilities), have been influential factors for establishing the age at which children have been granted admission to public schools. The legal age for school entrance in the United States has shifted from 4 years 9 months in 1958 to the present admission age of 5 years.

Though much research has been done on the complex construct readiness, the results have been basically inconclusive. Developmental theorists have endorsed the position that readiness is an important factor required for learning in young children. Because the conceptualization of school readiness is relative to time and circumstances, it obligates educators, parents, and education policy makers the responsibility of consulting latest research findings when establishing school regulations pertinent to the construct..

Approximately thirty years ago, the best way for a child to get ready for kindergarten was simply to become five years of age by a set date. Students who had reached the required age, regardless of their degree of maturation were approved for school entrance, and the classroom teacher had the responsibility of matching the kindergarten curriculum to the childrens' ve and individual needs.

Generally, motivation and attitude were terms used to define readiness at that time. The purpose for kindergarten was to prepare students for first grade. This meant familiarizing the children with school rules, the coat racks, and listening to the teacher. Reading was shared via fairytales and other stories that were read to the students by the teacher. Formal testing of kindergartners was unheard of (NAEYC, 1990). Being read to and having social experiences were considered sufficient tools of reading readiness. Testing for the kindergarten and/or primary level grades was not permitted. The general concensus was based upon the traditions from which kindergarten originated; the early childhood years were the times needed for natural growth and development. Formal testing could result in failure and/or low scores that could be misconstrued to be representative of a child's academic abilities. Thus, young children could be misplaced

and/or erroneously labeled for life when in reality the low or failure scores could have been directly attributed to immaturity and/or lack of experiences.

Conversely, today, readiness tests have given prior to, during, and at the end of kindergarten instruction, and testing has continued up through the primary grades. Charlesworth (1989), professor of curriculum and instruction in the College of Education at Louisiana State University theorized that kindergarten has been revolutionized from the socializing instrument for which it was initially designed to a more formal academic experience in the elementary grades. Charlesworth (1989) contended that the function of kindergarten has changed from providing children with experiences to assist them in acquiring readiness into an experience for which the children need to be ready when they arrive.

" Despite the best intentions of those concerned with the educational process, young children's readiness for school readiness is yet a controversial, complex, and perhaps misunderstood construct " (Crnic1994, p 91). Webster (1994) has defined readiness as a developmental stage at which a child has the capacity to receive instruction at a given level of difficulty (p. 1195). Psychologists and early childhood educators have generally depicted readiness as a construct which is conceptualized as a characteristic 1f an individual child; it matures as the child grows. " Readiness has been commonly portrayed as 'some combination of cognitive, psychomotor, and socio-emotional development that should be presented in a balance that is congruent with the child's chronological age.' "(Graue1993, p. 4). Graue (1993) has elaborated that various theories of readiness have given reference to several criteria which are vital for readiness development, but all have concurred that readiness is an innate construct which is essential for a child's success in school.

Reading has generally been defined as a process through which one uses his/her cognitive and metacognitive abilities to make sense of print. Thus, reading readiness may defined the stage at which a child has acquired the necessary skills to benefit from formal reading instruction.

"School readiness, as historically understood, implies rather fixed standards of physical, intellectual, and social development sufficient to enable children to meet school requirements and to assimilate the curriculum content "(Crnic 1994, p. 92). But the nature of the kindergarten curriculum has been quiet flexible over the years. Variations in the curriculum of kindergarten children have occurred just as frequemtly as variations of school entrance age. Generally, one has occurred in accordance with or as a result of the other. Wolf and Kessler (1987) offered a possible explanation for the cyclical rotations of the variables, school entrance and changes in curriculum.

> The early concepts of ' ripeness ' and ' growing ' into readiness were being challenged, and the practices associated the concepts were no longer viewed as a requirement to answer the question, "When is a child ready to read? " The concept of readiness began to

change with the times and the view of the child (p. 14).

With the advent of Sesame Street, preschool and other early childhood educational programs, many children have come to school knowing the alphabet, and some have even entered school reading. Consequently, parents have challenged teachers with the responsibility of 'teaching the children something they didn't already know'. Responding to cries for accountability from the public, administrators,and legislators, educators have permitted the curriculum to be shifted downward. Thus, kindergarten instructors were forced to teach material that was previously considered appropriate instruction for first grade students, including formal reading. To compensate for an escalated curriculum, the entrance age was elevated and new cutoff dates were enforced to resist deficiencies in readiness ehxibited by the youngest children. School entrance age has remained at 5 years but cutoff dates have shifted from as late as February 1, thirty years ago, to September 1. Standardized testing, which was once prohibited in the early grades, was now permitted and utilized as an instrument for measuring readiness. The resulting test scores were methodically used for the classification and instruction of kindergarten children.

Golant (1990) reported that developmental theorists and early childhood educators have zealously shunned the 'Trickle Down Phenomenon" that has compelled five year old kindergarten students to succumb to the rigorous academic curricula of first grade. Golant (1990) proposed that unrealistic expectations and tensions of the escalated curriculum has forced some children to supersede their frustration levels and hence has condemned them to the onerous experience of kindergarten failure.

Elkind (1981) accused the media and education policy makers of contributing to the dilemma of young children being pushed beyond their maturational abilities. Elkind (1981) compared U. S. public schools to factories and implied that teachers have been implementing factory techniques to instruct young children; worker productivity has been depicted as a function of the teacher, and quality control has been illustrated via pupil achievement scores. Shank (1990) suggested that " children have been traditionally placed on these assembly lines at age 5, ready or not " (p. 519).

The National Association for the Education of Young Children (1988) cited research (relative to readiness and kindergarten children) which supported previous findings that younger children involved in group instruction have slightly more difficulties achieving academically in kindergarten and throughout the elementary school years. The NAEYC conceded that delaying school entrance until these children have time to mature would ' appear ' to be the solution, but strongly advised against it. They felt that a year of delay could result in the children entering school as the new older students who could easily fall victims to the ills of boredom, lack of motivation, and or disciplinary problems. The NAEYC (1988) further suggested that it was unrealistic to impose an escalated curriculum upon kindergarten children and then expect them to be academically successful. They submitted that all children (no matter how young) have the potential to succeed in school, providing they are taught using developmentally appropriate curriculums.

Gullo (1994) has poignantly opposed the ' gift of time ' theory which purports that given time to mature, children will be prepared for a more successful early school experience. Gullo (1994) has suggested that immaturity has been frequently ascribed as the reason for the differences found in readiness test scores among kindergarten children when actually these differences could be attributed to individually selected or societally affected experiences. Thus, the gift of time could become the 'theft of time'. Charlesworth reiterated this logic and further stated, " The problem with delaying school entrance for those children ' not ready ' is obvious. By excluding them from rich learning experiences, they become progressively behinder, behinder, and behinder "(p. 7).

Both early and current research studies have generally supported the research hypothesis that there is a significant correlation between school age entrance and reading readiness achievement of kindergarten students. Where they have tended to differ is in the recommendations for resolving the differences between ready and unready children. In a study (1969) conducted by Rosenthal to investigate (1) the differences, if any, between the achievement in reading readiness of younger children (4 years 9 months to 5 years 1 month upon school entrance) and older children (5 years, 5 months to 5 years 8 months at school enrollment); (2) whether kindergarten positively affects the reading readiness achievement of children regardless of age, and (3) whether younger kindergarten children with training equal the level of reading readiness of older kindergarten children with training. The Lee Clark Readiness Test was administered to the 39 children. The results indicated:

1. There was a positive relationship between reading readiness achievement and kindergarten training in younger children.
2. Without kindergarten training, maturation plays a large part in affecting children's reading readiness achievement.

Uphoff and Gilmore (1985) did a study to support their hypothesis that children developmentally ' ready ' for school were more successful academically and scored higher on standardized tests than younger, and more immature children. The sample studied contained 278 pupils of the Hebron Nebraska Elementary School.. Uphoff and Gilmore's findings suggested that the older 5 year old children (greater than 5.3 years at school entrance) entering kindergarten failed less often, obtained better grades, and and fared better on standardized testing than the younger 5 year old children (5.3 years and less). Likewise they found that younger 5 year old children were off task up to three times more often than the older 5 year olds. Additional findings were that the less bright (as judged by IQ) but older children achieved higher standardized test results than did brighter but younger children.

From a sample of 152 students, May and Welch (1986), conducted a longitudinal study to establish the effects of birthdate and sex on readiness achievement. The

findings revealed differences in developmental age and readiness across birthdate month groups in kindergarten children. However, they also found that these differences in achievement were almost undetedtable in the children by the time they reached third grade. May and Welch found no relationship between birth month and sex as they affected achievement in kindergartners.

Garlikov's study (1987) used school age entry as a critical factor relative to the achievement of kindergarten children in the state of Alabama. The sample consisted of 100 kindergarten students (77 were 62 months or younger, and 23 were 63 months or older). The study did not reveal any significant differences in readiness achievement between older and younger students.

A study conducted by Magliacano (1994) further correlated the school age entrance with reading readiness achievement of young children but disputed the ' gift of time ' hypothesis as the appropriate way to resolve the differences between test scores of older and younger immature children.. Two samples of second grade students were established by examining the ages of all of the children in the cohort. Sample A consisted of students who entered kindergarten between the ages of 4 years 11 months and 5 years 4 months (younger students); and sample B was made up of students who were between the ages of 5 years 5 months and 6 years 1 month (older students). Scores from the Metropolitan Reading Readiness Tests and the Iowa Tests of Basic Skills were examined. The analysis was done via t-tests. The results showed that there was no significant difference between the samples in reading test scores as result of chronological age.

The original rationale establishing the age of 5 years as criterion for admission into kindergarten has yet to be validated. There has been no precise empirical basis to indicate that the choice of 5 years has any merit relative to psychological, developmental, or educational perspective. The research provides evidence that readiness skills may develop naturally via biological maturation and environmental interactions, or they may be artificially acquired by the interference of school experiences and instruction. Therefore, readiness or lack of readiness is not sufficient cause for public educational institutions to accept or to reject children who are of legal age to enter school..

Procedures

The population for this survey includes 56 first grade students. These students attend a parochial school which is located in a predominantly low and low socio-economic neighborhood on the southwest side of Chicago, Illinois. The population was comprised of 100% African American students ranging in age from five years, five months, and twenty-five days to six years, six months, and seven days.

Thirty kindergarten students were randomly selected from the given population and assigned to the sample for the correlation study. The Metropolitan Readiness Test

Sixth Edition, Level II test was administered to all the children of the population by their classroom teachers April, 1996. The raw scores were tabulated manually by the two classroom teachers; raw scores were converted into percentiles and recorded on the score sheets which were the covers of the MRT6 Level II booklets.

The samples of the study were identified and selected randomly from the school records. Tests scores for the MRT6 Level II PreReading Composite were identified and copied from the cover page of the test booklet. The age of school entry was also and identified and copied from the school records.

Findings

The Pearson Product Moment Coefficient was used to test the scores from the MRT Level II, PreReading Composite and the scool entrance age of the students to evaluate whether there was a statistically significant correlation. The findings of the study were calculated in terms of means and standard deviations. The test was employed at the .05 level of confidence to evaluate the statistical significance of the findings.The results of the calculations relative to 'r' were compared to Table A. (Gay, 1994) "Values of the Correlation Coefficient for Different Levels of Significance" (p. 606). Table I summarizes the statistical analysis.

Table I.

PEARSON'S PRODUCT MOMENT CORRELATION

STATISTIC	VALUE
NO. OF PAIRS OF SCORES	30
SUM OF SCORES ON ' X '	1931.76
SUM OF SCORES ON ' Y '	1576.00
SUM OF SQUARED SCORES ON ' X '	273.10
SUM OF SQUARED SCORES ON ' Y '	1422.00
MEAN OF ' X ' SCORES	64.39
MEAN OF ' Y ' SCORES	52.53
SUM OF 'X ' x ' Y '	596.00
PEARSON'S r	0.96
DEGREES OF FREEDOM	28 *

'X' = school age entrance
'Y' = MRT 6 Level II PreReading Composite raw scores
' r ' = the measure of correlation between 'X' and 'Y'
* Significance at the .05 level

According to the table of r's (Gay, 1994)

Summary

The purpose of the study was to determine if there is a positive correlation between school entrance age and reading readiness achievement of the thirty kindergarten in the random sample. School age entrance and readiness achievement have been highly controversial issues of early childhood education for years. Many research studies have been effective in determining the correlation between age and readiness. Contrastingly many research findings have differed as to what to do about the unreadiness of the younger children who generally score lower than the older children on readiness tests.

Though scoring slightly lower than their older cohorts, the research reports have indicated definite gains in the academic abilities of younger students who have benefited greatly from formal instruction and school experiences despite their immaturity. Yet educators, parents and legislators have continued to debate as to which of these issues (chronological age and readiness) is the most important and practical element to consider when establishing policies relative to age requirements for school entry.

Conclusions

The review of literature and findings supported the research hypothesis; there was a significant correlation between school age entrance and reading readiness achievement of the kindergarten children in the sample. In addition, these findings correlated with the findings of Shepard and Smith (1986); and May and Welch (1986) in that the differences between the scores of the youngest children (5 years 5 months and below) and the oldest children (5 years 6 months and above) were present but minimal. The standard deviation in the scores of the sample was 1.25.

> The highest possible raw score of the MRT Level II PreReading Composite was 62. Of the 22 younger children in the sample, 68 % of these children obtained a raw score of 50 or above. There were only eight oldest children in the sample; 75% of the oldest children scored a raw score of 50 and above.

The findings also implicated that the heterogeneous sample of kindergarten children who varied in ages and abilities at the time they entered school, were able to achieve academically via formal instruction and school experiences in spite of their individual levels of maturity.

Implications

The study suggests that educational policy makers should abort the ongoing debate about school entrance age and acknowledge the uniformity and the practicality of using chronological age to set policy regarding the age at which kindergarten and first grade children should enter school.

Five year old children enter kindergarten classrooms in various stages of maturity and with various academic abilities. Rather than downscaling first grade curriculums in efforts to compensate for these differences, devising a developmentally appropiate curriculum which allows for individual differences is a more logical way to resolve problems relative to unreadiness.

Recommendations

1. Provide developmentally appropriate curriculums along with individualized instruction to compensate for heterogeneous kindergarten classes relative to chronological age.

2. Equip kindergarten classrooms with experienced teachers along with well trained teacher assistants to allow for individualized instruction and hands on activities.

3. Reduce class size in heterogeneous classrooms to enhance opportunities for individualized instruction.

4. Encourage parents and administrators to assist them in acquiring the materials and personnel needed to implement the aforementioned recommendations.

5. Recommendations for further research:
    a. Larger sample population
    b. Experimental study
    c. Divergent study with more variables
    d. Longitudinal study

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